

From: Daniel Balbiani [<mailto:dbalbiani@pesenv.com>]
Sent: Thursday, December 26, 2013 2:39 PM
To: O'Brien, Maura (ECY)
Cc: 'Dave Tomson'; Kelly Rankich
Subject: Former Pace National Site -Vinyl Chloride Area Sampling Results Through 12/24/13

Maura,

The excavation of the saturated soils within the Vinyl Chloride Area (Area 9) began on December 12, 2013. To-date, approximately 5,600 tons of soil from the vinyl chloride area has been excavated and transported to CEMEX for treatment and disposal as Class 2 soil. To facilitate the removal of saturated soils to the elevation of the confining silt layer, a shoring wall was installed along portions of the northern and western sidewalls. PES was on-site to observe and document the sidewall soil during the shoring installation. The confining silt layer was observed at an elevation of approximately 132 feet amsl along the northern portion of the western sidewall and at an elevation of approximately 137 feet amsl along the southern portion of the western sidewall. The confining silt layer was less apparent at the far northwest corner of the sidewall. Approximately 4 feet of wet soils were observed above the confining silt layer.

PES collected four sidewall samples from saturated soils along with western sidewall (see attached figure). The samples were submitted for analysis of vinyl chloride, as well as toluene, naphthalene, diesel range organics, and heavy oil range organics (constituents previously detected in historical vinyl chloride area soil borings). The analytical results indicated that no constituents were detected above the method reporting limits (see attached table).

The laboratory analytical reports are also attached.

Excavation of the vinyl chloride area saturated soils is on-going and work is being done intermittently as the construction schedule allows. PES understands that you would like to visit the site when the excavation activities are more complete and you can observe the base of the excavation limits. As the optimal timing for that visit is not known, we will follow up with you and try to give you as much advanced notice as possible for when this visit should be scheduled.

Please let us know if you have any questions,

Kelly Rankich
Project Engineer

Daniel Balbiani, P.E.
Principal Engineer



PES Environmental, Inc.
Engineering & Environmental Services
1215 Fourth Ave., Suite 1350
Seattle, WA 98161
(206) 529-3980

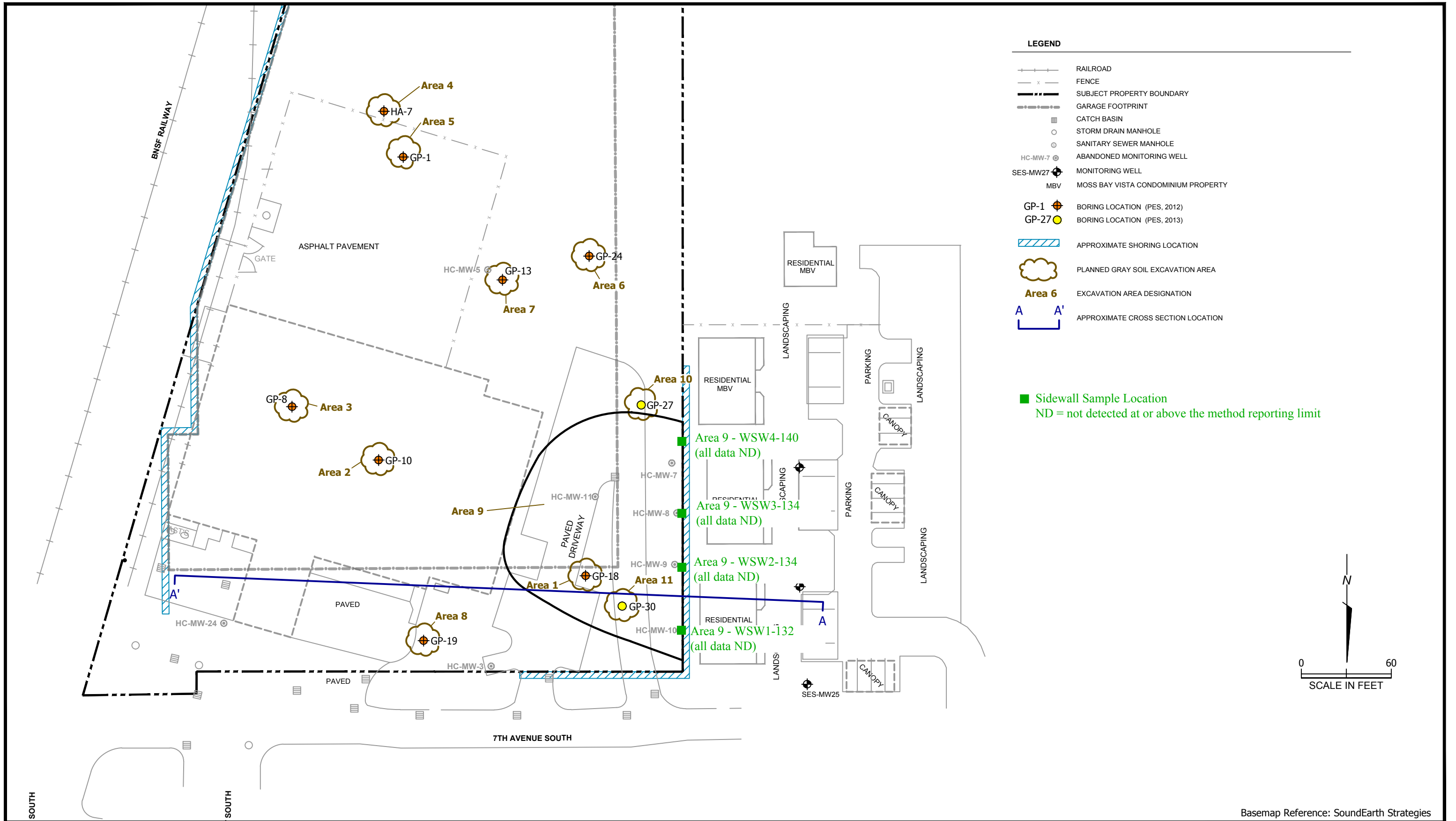


Table 1
Summary of Soil Analytical Results - Area 9 Western Sidewall
Former Pace National Property
500 7th Avenue South, Kirkland, WA

Area ID	Sample ID	Sample Date	Estimated Elevation (ft amsl)	Diesel Range Organics (mg/kg)	Heavy Oil Range Organics (mg/kg)	Naphthalene (mg/kg)	Toluene (mg/kg)	Vinyl Chloride (mg/kg)
Area 9	Area 9-WSW1-132	12/16/13	132	24.4 U	60.9 U	0.0316 U	0.0211 U	0.00211 U
	Area 9-WSW2-134	12/16/13	134	24.7 U	61.7 U	0.0345 U	0.230 U	0.00230 U
	Area 9-WSW3-134	12/16/13	134	23.5 U	58.9 U	0.0311 U	0.0207 U	0.00207 U
	Area 9-WSW4-140	12/17/13	140	25.5 U	63.7 U	0.0381 U	0.0254 U	0.00254 U

Notes:

- 1) mg/kg = milligrams per kilogram or parts per million
- 2) U = not detected at or above the method reporting limit (MRL) shown
- 3) ft amsl = feet above mean sea level, estimated based on surveyed elevations along shoring wall
- 4) Naphthalene, Toluene, and Vinyl Chloride analysis by USEPA Method 8260
- 5) Diesel and Heavy Oil (HO) analysis by Ecology Method NWTPH-Dx/Dx extended



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Kelly Rankich
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Former Pace National Property
Lab ID: 1312139

December 23, 2013

Attention Kelly Rankich:

Fremont Analytical, Inc. received 4 sample(s) on 12/16/2013 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Dee", is written over a light blue horizontal line.

Michael Dee
Sr. Chemist / Principal



Date: 12/23/2013

CLIENT: PES Environmental, Inc.
Project: Former Pace National Property
Lab Order: 1312139

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1312139-001	Area 9-WSW1-132	12/16/2013 10:30 AM	12/16/2013 3:15 PM
1312139-002	Area 9-WSW2-134	12/16/2013 11:15 AM	12/16/2013 3:15 PM
1312139-003	Area 9-WSW3-134	12/16/2013 1:30 PM	12/16/2013 3:15 PM
1312139-004	Trip Blank	12/02/2013 2:07 PM	12/16/2013 3:15 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-DX-S), SAMPLE (1312139-001A) required Silica Gel Cleanup Procedure (Using Method No 3630C).

Prep Comments for METHOD (PREP-DX-S), SAMPLE (1312139-002A) required Silica Gel Cleanup Procedure (Using Method No 3630C).

Prep Comments for METHOD (PREP-DX-S), SAMPLE (1312139-003A) required Silica Gel Cleanup Procedure (Using Method No 3630C).



Analytical Report

WO#: 1312139

Date Reported: 12/23/2013

Client: PES Environmental, Inc.

Collection Date: 12/16/2013 10:30:00 AM

Project: Former Pace National Property

Lab ID: 1312139-001

Matrix: Soil

Client Sample ID: Area 9-WSW1-132

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 6163

Analyst: BR

Diesel (Fuel Oil)	ND	24.4		mg/Kg-dry	1	12/18/2013 5:52:00 PM
Heavy Oil	ND	60.9		mg/Kg-dry	1	12/18/2013 5:52:00 PM
Surr: 2-Fluorobiphenyl	108	50-150		%REC	1	12/18/2013 5:52:00 PM
Surr: o-Terphenyl	101	50-150		%REC	1	12/18/2013 5:52:00 PM

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6159

Analyst: GH

Vinyl chloride	ND	0.00211		mg/Kg-dry	1	12/18/2013 4:16:00 AM
Toluene	ND	0.0211		mg/Kg-dry	1	12/18/2013 4:16:00 AM
Naphthalene	ND	0.0316		mg/Kg-dry	1	12/18/2013 4:16:00 AM
Surr: Dibromofluoromethane	90.4	63.7-129		%REC	1	12/18/2013 4:16:00 AM
Surr: Toluene-d8	99.5	61.4-128		%REC	1	12/18/2013 4:16:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.4	63.1-141		%REC	1	12/18/2013 4:16:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R11604

Analyst: KZ

Percent Moisture	17.9			wt%	1	12/17/2013 8:52:37 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	C	Value is below Minimum Compound Limit.
	D	Dilution was required	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1312139

Date Reported: 12/23/2013

Client: PES Environmental, Inc.

Collection Date: 12/16/2013 11:15:00 AM

Project: Former Pace National Property

Lab ID: 1312139-002

Matrix: Soil

Client Sample ID: Area 9-WSW2-134

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 6163

Analyst: BR

Diesel (Fuel Oil)	ND	24.7		mg/Kg-dry	1	12/18/2013 6:24:00 PM
Heavy Oil	ND	61.7		mg/Kg-dry	1	12/18/2013 6:24:00 PM
Surr: 2-Fluorobiphenyl	113	50-150		%REC	1	12/18/2013 6:24:00 PM
Surr: o-Terphenyl	105	50-150		%REC	1	12/18/2013 6:24:00 PM

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6159

Analyst: GH

Vinyl chloride	ND	0.00230		mg/Kg-dry	1	12/18/2013 6:02:00 AM
Toluene	ND	0.0230		mg/Kg-dry	1	12/18/2013 6:02:00 AM
Naphthalene	ND	0.0345		mg/Kg-dry	1	12/18/2013 6:02:00 AM
Surr: Dibromofluoromethane	91.4	63.7-129		%REC	1	12/18/2013 6:02:00 AM
Surr: Toluene-d8	101	61.4-128		%REC	1	12/18/2013 6:02:00 AM
Surr: 1-Bromo-4-fluorobenzene	93.4	63.1-141		%REC	1	12/18/2013 6:02:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R11604

Analyst: KZ

Percent Moisture	19.0			wt%	1	12/17/2013 8:52:37 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	C	Value is below Minimum Compound Limit.
	D	Dilution was required	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Analytical Report

WO#: 1312139

Date Reported: 12/23/2013

Client: PES Environmental, Inc.

Collection Date: 12/16/2013 1:30:00 PM

Project: Former Pace National Property

Lab ID: 1312139-003

Matrix: Soil

Client Sample ID: Area 9-WSW3-134

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 6163

Analyst: BR

Diesel (Fuel Oil)	ND	23.5		mg/Kg-dry	1	12/18/2013 6:56:00 PM
Heavy Oil	ND	58.9		mg/Kg-dry	1	12/18/2013 6:56:00 PM
Surr: 2-Fluorobiphenyl	103	50-150		%REC	1	12/18/2013 6:56:00 PM
Surr: o-Terphenyl	96.8	50-150		%REC	1	12/18/2013 6:56:00 PM

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6159

Analyst: GH

Vinyl chloride	ND	0.00207		mg/Kg-dry	1	12/18/2013 6:28:00 AM
Toluene	ND	0.0207		mg/Kg-dry	1	12/18/2013 6:28:00 AM
Naphthalene	ND	0.0311		mg/Kg-dry	1	12/18/2013 6:28:00 AM
Surr: Dibromofluoromethane	89.8	63.7-129		%REC	1	12/18/2013 6:28:00 AM
Surr: Toluene-d8	99.7	61.4-128		%REC	1	12/18/2013 6:28:00 AM
Surr: 1-Bromo-4-fluorobenzene	94.3	63.1-141		%REC	1	12/18/2013 6:28:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R11604

Analyst: KZ

Percent Moisture	15.1			wt%	1	12/17/2013 8:52:37 AM
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Qualifiers:	B	Analyte detected in the associated Method Blank	C	Value is below Minimum Compound Limit.
	D	Dilution was required	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



Client: PES Environmental, Inc.

Collection Date: 12/2/2013 2:07:00 PM

Project: Former Pace National Property

Lab ID: 1312139-004

Matrix: Soil

Client Sample ID: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 6159

Analyst: GH

Vinyl chloride	ND	0.00200	H	mg/Kg	1	12/18/2013 1:11:00 AM
Toluene	ND	0.0200	H	mg/Kg	1	12/18/2013 1:11:00 AM
Naphthalene	ND	0.0300	H	mg/Kg	1	12/18/2013 1:11:00 AM
Surr: Dibromofluoromethane	95.3	63.7-129	H	%REC	1	12/18/2013 1:11:00 AM
Surr: Toluene-d8	98.9	61.4-128	H	%REC	1	12/18/2013 1:11:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.2	63.1-141	H	%REC	1	12/18/2013 1:11:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	C	Value is below Minimum Compound Limit.
	D	Dilution was required	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits
	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1312139
CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: 1312150-001ADUP	SampType: DUP	Units: mg/Kg	Prep Date: 12/18/2013	RunNo: 11666							
Client ID: BATCH	Batch ID: 6163		Analysis Date: 12/18/2013	SeqNo: 233522							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	20.0						0		30	
Heavy Oil	ND	50.0						0		30	
Surr: 2-Fluorobiphenyl	22.5		20.00		112	50	150		0		
Surr: o-Terphenyl	21.0		20.00		105	50	150		0		

Sample ID: LCS-6163	SampType: LCS	Units: mg/Kg	Prep Date: 12/18/2013	RunNo: 11666							
Client ID: LCSS	Batch ID: 6163		Analysis Date: 12/18/2013	SeqNo: 233528							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	549	20.0	500.0	0	110	65	135				
Surr: 2-Fluorobiphenyl	21.3		20.00		106	50	150				
Surr: o-Terphenyl	19.5		20.00		97.7	50	150				

Sample ID: MB-6163	SampType: MBLK	Units: mg/Kg	Prep Date: 12/18/2013	RunNo: 11666							
Client ID: MBLKS	Batch ID: 6163		Analysis Date: 12/18/2013	SeqNo: 233529							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	21.0		20.00		105	50	150				
Surr: o-Terphenyl	19.7		20.00		98.5	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	C	Value is below Minimum Compound Limit.	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit

Work Order: 1312139
CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: 1312135-001BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: BATCH	Batch ID: 6159		Analysis Date: 12/18/2013	SeqNo: 232718							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.00212						0		30	
Toluene	ND	0.0212						0		30	
Naphthalene	ND	0.0318						0		30	
Surr: Dibromofluoromethane	2.43		2.651		91.5	63.7	129		0		
Surr: Toluene-d8	2.68		2.651		101	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.76		2.651		104	63.1	141		0		

Sample ID: 1312139-001BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: Area 9-WSW1-132	Batch ID: 6159		Analysis Date: 12/18/2013	SeqNo: 232721							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.21	0.00211	1.055	0	115	51.2	146				
Toluene	1.14	0.0211	1.055	0	108	63.4	132				
Naphthalene	1.26	0.0316	1.055	0	119	52.3	124				
Surr: Dibromofluoromethane	2.55		2.637		96.5	63.7	129				
Surr: Toluene-d8	2.65		2.637		100	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.52		2.637		95.4	63.1	141				

Sample ID: LCS-6159	SampType: LCS	Units: mg/Kg	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: LCSS	Batch ID: 6159		Analysis Date: 12/17/2013	SeqNo: 232731							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.984	0.00200	1.000	0	98.4	56.1	130				
Toluene	1.00	0.0200	1.000	0	100	83	121				
Naphthalene	1.03	0.0300	1.000	0	103	64	130				
Surr: Dibromofluoromethane	2.55		2.500		102	63.7	129				
Surr: Toluene-d8	2.58		2.500		103	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.53		2.500		101	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	C	Value is below Minimum Compound Limit.	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit



Date: 12/23/2013

Work Order: 1312139
CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-6159	SampType: LCS	Units: mg/Kg	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: LCSS	Batch ID: 6159	Analysis Date: 12/17/2013	SeqNo: 232731								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: MB-6159	SampType: MBLK	Units: mg/Kg	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: MBLKS	Batch ID: 6159	Analysis Date: 12/17/2013	SeqNo: 232732								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	ND	0.00200									
Toluene	ND	0.0200									
Naphthalene	ND	0.0300									
Surr: Dibromofluoromethane	2.41		2.500		96.3	63.7	129				
Surr: Toluene-d8	2.50		2.500		100	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.44		2.500		97.5	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	C	Value is below Minimum Compound Limit.	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not detected at the Reporting Limit	R	RPD outside accepted recovery limits	RL	Reporting Limit

Client Name: **PES**
 Logged by: **Chelsea Ward**

Work Order Number: **1312139**
 Date Received: **12/16/2013 3:15:00 PM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes No NA
 4. Shipping container/cooler in good condition? Yes No
 5. Custody seals intact on shipping container/cooler? Yes No Not Required
 6. Was an attempt made to cool the samples? Yes No NA
 7. Were all coolers received at a temperature of >0°C to 10.0°C? Yes No NA
 8. Sample(s) in proper container(s)? Yes No
 9. Sufficient sample volume for indicated test(s)? Yes No
 10. Are samples properly preserved? Yes No
 11. Was preservative added to bottles? Yes No NA
 12. Is the headspace in the VOA vials? Yes No NA
 13. Did all samples containers arrive in good condition(unbroken)? Yes No
 14. Does paperwork match bottle labels? Yes No
 15. Are matrices correctly identified on Chain of Custody? Yes No
 16. Is it clear what analyses were requested? Yes No
 17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	8.8	Good
Sample	9.5	Good



3600 Fremont Ave. N.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

PES Environmental, Inc.
Kelly Rankich
1215 Fourth Avenue, Suite 1350
Seattle, WA 98161

RE: Former Pace National Property
Lab ID: 1312150

December 23, 2013

Attention Kelly Rankich:

Fremont Analytical, Inc. received 2 sample(s) on 12/17/2013 for the analyses presented in the following report.

Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.
Sample Moisture (Percent Moisture)
Volatile Organic Compounds by EPA Method 8260

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Dee".

Michael Dee
Sr. Chemist / Principal



Date: 12/23/2013

CLIENT: PES Environmental, Inc.
Project: Former Pace National Property
Lab Order: 1312150

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1312150-001	Area 9-WSW4-140	12/17/2013 9:45 AM	12/17/2013 2:45 PM
1312150-002	Trip Blank	12/12/2013 2:45 PM	12/17/2013 2:45 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-DX-S), SAMPLE (1312150-001A) required Silica Gel Cleanup Procedure (Using Method No 3630C).



Analytical Report

WO#: 1312150

Date Reported: 12/23/2013

Client: PES Environmental, Inc.

Collection Date: 12/17/2013 9:45:00 AM

Project: Former Pace National Property

Lab ID: 1312150-001

Matrix: Soil

Client Sample ID: Area 9-WSW4-140

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Batch ID: 6163

Analyst: BR

Diesel (Fuel Oil)	ND	25.5		mg/Kg-dry	1	12/18/2013 7:28:00 PM
Heavy Oil	ND	63.7		mg/Kg-dry	1	12/18/2013 7:28:00 PM
Surr: 2-Fluorobiphenyl	113	50-150		%REC	1	12/18/2013 7:28:00 PM
Surr: o-Terphenyl	107	50-150		%REC	1	12/18/2013 7:28:00 PM

Volatile Organic Compounds by EPA Method 8260

Batch ID: 6159

Analyst: GH

Vinyl chloride	ND	0.00254		mg/Kg-dry	1	12/18/2013 6:55:00 AM
Toluene	ND	0.0254		mg/Kg-dry	1	12/18/2013 6:55:00 AM
Naphthalene	ND	0.0381		mg/Kg-dry	1	12/18/2013 6:55:00 AM
Surr: Dibromofluoromethane	90.1	63.7-129		%REC	1	12/18/2013 6:55:00 AM
Surr: Toluene-d8	99.5	61.4-128		%REC	1	12/18/2013 6:55:00 AM
Surr: 1-Bromo-4-fluorobenzene	93.4	63.1-141		%REC	1	12/18/2013 6:55:00 AM

Sample Moisture (Percent Moisture)

Batch ID: R11625

Analyst: KZ

Percent Moisture	21.5			wt%	1	12/18/2013 8:44:42 AM
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Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits



Client: PES Environmental, Inc.

Collection Date: 12/12/2013 2:45:00 PM

Project: Former Pace National Property

Lab ID: 1312150-002

Matrix: Soil

Client Sample ID: Trip Blank

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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Volatile Organic Compounds by EPA Method 8260

Batch ID: 6159

Analyst: GH

Vinyl chloride	ND	0.00200		mg/Kg	1	12/18/2013 1:37:00 AM
Toluene	ND	0.0200		mg/Kg	1	12/18/2013 1:37:00 AM
Naphthalene	ND	0.0300		mg/Kg	1	12/18/2013 1:37:00 AM
Surr: Dibromofluoromethane	95.5	63.7-129		%REC	1	12/18/2013 1:37:00 AM
Surr: Toluene-d8	99.2	61.4-128		%REC	1	12/18/2013 1:37:00 AM
Surr: 1-Bromo-4-fluorobenzene	97.6	63.1-141		%REC	1	12/18/2013 1:37:00 AM

Qualifiers: B Analyte detected in the associated Method Blank
 E Value above quantitation range
 J Analyte detected below quantitation limits
 RL Reporting Limit

D Dilution was required
 H Holding times for preparation or analysis exceeded
 ND Not detected at the Reporting Limit
 S Spike recovery outside accepted recovery limits

Work Order: 1312150
CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

QC SUMMARY REPORT
Diesel and Heavy Oil by NWTPH-Dx/Dx Ext.

Sample ID: 1312150-001ADUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 12/18/2013	RunNo: 11666							
Client ID: Area 9-WSW4-140	Batch ID: 6163		Analysis Date: 12/18/2013	SeqNo: 233522							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	25.5						0		30	
Heavy Oil	ND	63.7						0		30	
Surr: 2-Fluorobiphenyl	28.6		25.49		112	50	150		0		
Surr: o-Terphenyl	26.7		25.49		105	50	150		0		

Sample ID: LCS-6163	SampType: LCS	Units: mg/Kg	Prep Date: 12/18/2013	RunNo: 11666							
Client ID: LCSS	Batch ID: 6163		Analysis Date: 12/18/2013	SeqNo: 233528							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	549	20.0	500.0	0	110	65	135				
Surr: 2-Fluorobiphenyl	21.3		20.00		106	50	150				
Surr: o-Terphenyl	19.5		20.00		97.7	50	150				

Sample ID: MB-6163	SampType: MBLK	Units: mg/Kg	Prep Date: 12/18/2013	RunNo: 11666							
Client ID: MBLKS	Batch ID: 6163		Analysis Date: 12/18/2013	SeqNo: 233529							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel (Fuel Oil)	ND	20.0									
Heavy Oil	ND	50.0									
Surr: 2-Fluorobiphenyl	21.0		20.00		105	50	150				
Surr: o-Terphenyl	19.7		20.00		98.5	50	150				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1312150
CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: 1312135-001BDUP	SampType: DUP	Units: mg/Kg-dry	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: BATCH	Batch ID: 6159		Analysis Date: 12/18/2013	SeqNo: 232718							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	0.00212						0		30	
Toluene	ND	0.0212						0		30	
Naphthalene	ND	0.0318						0		30	
Surr: Dibromofluoromethane	2.43		2.651		91.5	63.7	129		0		
Surr: Toluene-d8	2.68		2.651		101	61.4	128		0		
Surr: 1-Bromo-4-fluorobenzene	2.76		2.651		104	63.1	141		0		

Sample ID: 1312139-001BMS	SampType: MS	Units: mg/Kg-dry	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: BATCH	Batch ID: 6159		Analysis Date: 12/18/2013	SeqNo: 232721							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	1.21	0.00211	1.055	0	115	51.2	146				
Toluene	1.14	0.0211	1.055	0	108	63.4	132				
Naphthalene	1.26	0.0316	1.055	0	119	52.3	124				
Surr: Dibromofluoromethane	2.55		2.637		96.5	63.7	129				
Surr: Toluene-d8	2.65		2.637		100	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.52		2.637		95.4	63.1	141				

Sample ID: LCS-6159	SampType: LCS	Units: mg/Kg	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: LCSS	Batch ID: 6159		Analysis Date: 12/17/2013	SeqNo: 232731							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	0.984	0.00200	1.000	0	98.4	56.1	130				
Toluene	1.00	0.0200	1.000	0	100	83	121				
Naphthalene	1.03	0.0300	1.000	0	103	64	130				
Surr: Dibromofluoromethane	2.55		2.500		102	63.7	129				
Surr: Toluene-d8	2.58		2.500		103	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.53		2.500		101	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1312150
CLIENT: PES Environmental, Inc.
Project: Former Pace National Property

QC SUMMARY REPORT
Volatile Organic Compounds by EPA Method 8260

Sample ID: LCS-6159	SampType: LCS	Units: mg/Kg	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: LCSS	Batch ID: 6159		Analysis Date: 12/17/2013	SeqNo: 232731							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: MB-6159	SampType: MBLK	Units: mg/Kg	Prep Date: 12/17/2013	RunNo: 11623							
Client ID: MBLKS	Batch ID: 6159		Analysis Date: 12/17/2013	SeqNo: 232732							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	ND	0.00200									
Toluene	ND	0.0200									
Naphthalene	ND	0.0300									
Surr: Dibromofluoromethane	2.41		2.500		96.3	63.7	129				
Surr: Toluene-d8	2.50		2.500		100	61.4	128				
Surr: 1-Bromo-4-fluorobenzene	2.44		2.500		97.5	63.1	141				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Client Name: **PES**
 Logged by: **Chelsea Ward**

Work Order Number: **1312150**
 Date Received: **12/17/2013 2:45:00 PM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
 2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes No NA
 4. Shipping container/cooler in good condition? Yes No
 5. Custody seals intact on shipping container/cooler? Yes No Not Required
 6. Was an attempt made to cool the samples? Yes No NA
 7. Were all coolers received at a temperature of >0°C to 10.0°C? Yes No NA
 8. Sample(s) in proper container(s)? Yes No
 9. Sufficient sample volume for indicated test(s)? Yes No
 10. Are samples properly preserved? Yes No
 11. Was preservative added to bottles? Yes No NA
 12. Is the headspace in the VOA vials? Yes No NA
 13. Did all samples containers arrive in good condition(unbroken)? Yes No
 14. Does paperwork match bottle labels? Yes No
 15. Are matrices correctly identified on Chain of Custody? Yes No
 16. Is it clear what analyses were requested? Yes No
 17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C	Condition
Cooler	8.5	Good
Sample	8.8	Good

